



DIÂMETROS DE BROCAS PARA ROSCA

DIÂMETRO DE NÚCLEO PARA ROSCAS CORTADAS

| Rosca métrica ISO DIN 13 | | | | Rosca métrica fina ISO DIN 13 | | | | | | Rosca UNC ASME B1.1 | | | | | |
|--------------------------|---------|--------------------|-------------------------------|-------------------------------|---------|--------------------|------------------------------|-------------|---------|---------------------|------------------------------|-------------|----------------|-----------------|------------------------------|
| Ø nom. | Passo P | Diâmetro do furo Ø | Ø do núcleo rosca interna 6H* | Ø x nom. | Passo P | Diâmetro do furo Ø | Ø do núcleo rosca interna 6H | Ø x nom. | Passo P | Diâmetro do furo Ø | Ø do núcleo rosca interna 6H | Ø nom. | Fio por poleg. | Diâm. do furo Ø | Ø do núcleo rosca interna 2B |
| mm | mm | DIN 336 mm | min. mm max. mm | mm | mm | DIN 336 mm | min. mm max. mm | mm | mm | DIN 336 mm | min. mm max. mm | mm | | DIN 336 mm | min. mm max. mm |
| M 1 | 0,25 | 0,75 | 0,729 0,785 | M 2,5 x 0,35 | | 2,15 | 2,121 2,221 | M 22 x 1,50 | | 20,50 | 20,376 20,676 | Nr. 1 - 64 | | 1,55 | 1,425 1,580 |
| M 1,1 | 0,25 | 0,85 | 0,829 0,885 | M 3,0 x 0,35 | | 2,65 | 2,621 2,721 | M 22 x 2,00 | | 20,00 | 19,835 20,210 | Nr. 2 - 56 | | 1,85 | 1,694 1,872 |
| M 1,2 | 0,25 | 0,95 | 0,929 0,985 | M 3,5 x 0,35 | | 3,15 | 3,121 3,221 | M 24 x 1,00 | | 23,00 | 22,917 23,153 | Nr. 3 - 48 | | 2,10 | 1,941 2,146 |
| M 1,4 | 0,30 | 1,10 | 1,075 1,142 | M 4,0 x 0,50 | | 3,50 | 3,459 3,599 | M 24 x 1,50 | | 22,50 | 22,376 22,676 | Nr. 4 - 40 | | 2,35 | 2,157 2,385 |
| M 1,6 | 0,35 | 1,25 | 1,221 1,321 | M 4,5 x 0,50 | | 4,00 | 3,959 4,099 | M 24 x 2,00 | | 22,00 | 21,835 22,210 | Nr. 5 - 40 | | 2,65 | 2,487 2,698 |
| M 1,8 | 0,35 | 1,45 | 1,421 1,521 | M 5,0 x 0,50 | | 4,50 | 4,459 4,599 | M 25 x 1,00 | | 24,00 | 23,917 24,153 | Nr. 6 - 32 | | 2,85 | 2,642 2,896 |
| M 2 | 0,40 | 1,60 | 1,567 1,679 | M 5,5 x 0,50 | | 5,00 | 4,959 5,099 | M 25 x 1,50 | | 23,50 | 23,376 23,676 | Nr. 8 - 32 | | 3,50 | 3,302 3,531 |
| M 2,2 | 0,45 | 1,75 | 1,713 1,838 | M 6,0 x 0,75 | | 5,20 | 5,188 5,378 | M 25 x 2,00 | | 23,00 | 22,835 23,210 | Nr. 10 - 24 | | 3,90 | 3,683 3,937 |
| M 2,5 | 0,45 | 2,05 | 2,013 2,138 | M 7,0 x 0,75 | | 6,20 | 6,188 6,378 | M 27 x 1,00 | | 26,00 | 25,917 26,153 | Nr. 12 - 24 | | 4,50 | 4,343 4,597 |
| M 3 | 0,50 | 2,50 | 2,459 2,599 | M 8,0 x 0,50 | | 7,50 | 7,459 7,599 | M 27 x 1,50 | | 25,50 | 25,376 25,676 | 1/4 - 20 | | 5,10 | 4,978 5,258 |
| M 3,5 | 0,60 | 2,90 | 2,850 3,010 | M 8,0 x 0,75 | | 7,20 | 7,188 7,378 | M 27 x 2,00 | | 25,00 | 24,835 25,210 | 5/16 - 18 | | 6,60 | 6,401 6,731 |
| M 4 | 0,70 | 3,30 | 3,242 3,422 | M 8,0 x 1,00 | | 7,00 | 6,917 7,153 | M 28 x 1,00 | | 27,00 | 26,917 27,153 | 3/8 - 16 | | 8,00 | 7,798 8,153 |
| M 4,5 | 0,75 | 3,70 | 3,688 3,878 | M 9,0 x 0,75 | | 8,20 | 8,188 8,378 | M 28 x 1,50 | | 26,50 | 26,376 26,676 | 7/16 - 14 | | 9,40 | 9,144 9,550 |
| M 5 | 0,80 | 4,20 | 4,134 4,334 | M 9,0 x 1,00 | | 8,00 | 7,917 8,153 | M 28 x 2,00 | | 26,00 | 25,835 26,210 | 1/2 - 13 | | 10,80 | 10,592 11,024 |
| M 6 | 1,00 | 5,00 | 4,917 5,153 | M 10 x 0,75 | | 9,20 | 9,188 9,378 | M 30 x 1,00 | | 29,00 | 28,917 29,153 | 9/16 - 12 | | 12,20 | 11,989 12,446 |
| M 7 | 1,00 | 6,00 | 5,917 6,153 | M 10 x 1,00 | | 9,00 | 8,917 9,153 | M 30 x 1,50 | | 28,50 | 28,376 28,676 | 5/8 - 11 | | 13,50 | 13,386 13,868 |
| M 8 | 1,25 | 6,80 | 6,647 6,912 | M 10 x 1,25 | | 8,80 | 8,647 8,912 | M 30 x 2,00 | | 28,00 | 27,835 28,210 | 3/4 - 10 | | 16,50 | 16,307 16,840 |
| M 9 | 1,25 | 7,80 | 7,647 7,912 | M 11 x 0,75 | | 10,20 | 10,188 10,378 | M 30 x 3,00 | | 27,00 | 26,752 27,252 | 7/8 - 9 | | 19,50 | 19,177 19,761 |
| M 10 | 1,50 | 8,50 | 8,376 8,676 | M 11 x 1,00 | | 10,00 | 9,917 10,153 | M 32 x 1,50 | | 30,50 | 30,376 30,676 | 1 - 8 | | 22,25 | 21,971 22,606 |
| M 11 | 1,50 | 9,50 | 9,376 9,676 | M 12 x 1,00 | | 11,00 | 10,917 11,153 | M 32 x 2,00 | | 30,00 | 29,835 30,210 | 1 1/8 - 7 | | 25,00 | 24,638 25,349 |
| M 12 | 1,75 | 10,20 | 10,106 10,441 | M 12 x 1,25 | | 10,80 | 10,647 10,912 | M 33 x 1,50 | | 31,50 | 31,376 31,676 | 1 1/4 - 7 | | 28,00 | 27,813 28,524 |
| M 14 | 2,00 | 12,00 | 11,835 12,210 | M 12 x 1,50 | | 10,50 | 10,376 10,676 | M 33 x 2,00 | | 31,00 | 30,835 31,210 | 1 3/8 - 6 | | 30,75 | 30,353 31,115 |
| M 16 | 2,00 | 14,00 | 13,835 14,210 | M 14 x 1,00 | | 13,00 | 12,917 13,153 | M 33 x 3,00 | | 30,00 | 29,752 30,252 | 1 1/2 - 6 | | 34,00 | 33,528 34,290 |
| M 18 | 2,50 | 15,50 | 15,294 15,744 | M 14 x 1,25 | | 12,80 | 12,647 12,912 | M 35 x 1,50 | | 33,50 | 33,376 33,676 | 1 3/4 - 5 | | 39,50 | 38,938 39,802 |
| M 20 | 2,50 | 17,50 | 17,294 17,744 | M 14 x 1,50 | | 12,50 | 12,376 12,676 | M 36 x 1,50 | | 34,50 | 34,376 34,676 | 2 - 4,5 | | 45,00 | 44,679 45,593 |
| M 22 | 2,50 | 19,50 | 19,294 19,744 | M 15 x 1,00 | | 14,00 | 13,917 14,153 | | | | | | | | |
| M 24 | 3,00 | 21,00 | 20,752 21,252 | M 15 x 1,50 | | 13,50 | 13,376 13,676 | | | | | | | | |
| M 27 | 3,00 | 24,00 | 23,752 24,252 | M 16 x 1,00 | | 15,00 | 14,917 15,153 | | | | | | | | |
| M 30 | 3,50 | 26,50 | 26,211 26,711 | M 16 x 1,25 | | 14,80 | 14,647 14,912 | | | | | | | | |
| M 33 | 3,50 | 29,50 | 29,211 29,711 | M 16 x 1,50 | | 14,50 | 14,376 14,676 | | | | | | | | |
| M 36 | 4,00 | 32,00 | 31,670 32,270 | M 17 x 1,00 | | 16,00 | 15,917 16,153 | | | | | | | | |
| M 39 | 4,00 | 35,00 | 34,670 35,270 | M 17 x 1,50 | | 15,50 | 15,376 15,676 | | | | | | | | |
| M 42 | 4,50 | 37,50 | 37,129 37,799 | M 18 x 1,00 | | 17,00 | 16,917 17,153 | | | | | | | | |
| M 45 | 4,50 | 40,50 | 40,129 40,799 | M 18 x 1,50 | | 16,50 | 16,376 16,676 | | | | | | | | |
| M 48 | 5,00 | 43,00 | 42,587 43,297 | M 20 x 1,00 | | 19,00 | 18,917 19,153 | | | | | | | | |
| M 52 | 5,00 | 47,00 | 46,587 47,297 | M 20 x 1,50 | | 18,50 | 18,376 18,676 | | | | | | | | |
| M 56 | 5,50 | 50,50 | 50,046 50,796 | M 20 x 2,00 | | 18,00 | 17,835 18,210 | | | | | | | | |
| | | | | M 22 x 1,00 | | 21,00 | 20,917 21,153 | | | | | | | | |

* M 1,1 até M 1,4 Ø-núcleo rosca interna 5H

| Rosca MJ DIN ISO 5855 | | | | Rosca UNC ISO 3161 | | | | Rosca UNF ISO 3161 | | | |
|-----------------------|-----------|--------------------|-------------------------------|--------------------|----------------|--------------------|------------------------------|--------------------|----------------|--------------------|------------------------------|
| Ø nom. | x Passo P | Diâmetro do furo Ø | Ø do núcleo rosca interna 5H* | Ø nom. | Fio por poleg. | Diâmetro do furo Ø | Ø do núcleo rosca interna 3B | Ø nom. | Fio por poleg. | Diâmetro do furo Ø | Ø do núcleo rosca interna 3B |
| mm | mm | DIN 336 mm | min. mm max. mm | mm | | DIN 336 mm | min. mm max. mm | mm | | DIN 336 mm | min. mm max. mm |
| MJ 3 | x 0,50 | 2,60 | 2,513 2,653 | Nr. 6 - 32 | | 2,85 | 2,733 2,939 | Nr. 6 - 40 | | 3,00 | 2,888 3,053 |
| MJ 4 | x 0,70 | 3,40 | 3,318 3,498 | Nr. 8 - 32 | | 3,55 | 3,393 3,599 | Nr. 8 - 36 | | 3,60 | 3,480 3,663 |
| MJ 5 | x 0,80 | 4,30 | 4,221 4,421 | Nr. 10 - 24 | | 4,00 | 3,795 4,064 | Nr. 10 - 32 | | 4,20 | 4,054 4,255 |
| MJ 6 | x 0,50 | 5,55 | 5,513 5,625 | Nr. 12 - 24 | | 4,60 | 4,455 4,704 | Nr. 12 - 28 | | 4,75 | 4,602 4,816 |
| MJ 6 | x 0,75 | 5,35 | 5,269 5,419 | 1/4 - 20 | | 5,30 | 5,113 5,387 | 1/4 - 28 | | 5,60 | 5,466 5,662 |
| MJ 6 | x 1,00 | 5,10 | 5,026 5,216 | 5/16 - 18 | | 6,75 | 6,563 6,833 | 5/16 - 24 | | 7,00 | 6,906 7,109 |
| MJ 8 | x 0,50 | 7,55 | 7,513 7,625 | 3/8 - 16 | | 8,20 | 7,978 8,255 | 3/8 - 24 | | 8,60 | 8,494 8,679 |
| MJ 8 | x 0,75 | 7,35 | 7,269 7,419 | 7/16 - 14 | | 9,60 | 9,346 9,639 | 7/16 - 20 | | 10,00 | 9,876 10,084 |
| MJ 8 | x 1,00 | 7,10 | 7,026 7,216 | 1/2 - 13 | | 11,00 | 10,798 11,095 | 1/2 - 20 | | 11,60 | 11,463 11,661 |
| MJ 8 | x 1,25 | 6,90 | 6,782 6,994 | 9/16 - 12 | | 12,40 | 12,228 12,482 | 9/16 - 18 | | 13,00 | 12,913 13,122 |
| MJ 10 | x 1,00 | 9,10 | 9,026 9,216 | 5/8 - 11 | | 13,80 | 13,627 13,904 | 5/8 - 18 | | 14,60 | 14,501 14,702 |
| MJ 10 | x 1,25 | 8,90 | 8,782 8,994 | | | | | | | | |
| MJ 10 | x 1,50 | 8,60 | 8,539 8,775 | | | | | | | | |
| MJ 12 | x 1,75 | 10,40 | 10,295 10,560 | | | | | | | | |
| MJ 16 | x 2,00 | 14,20 | 14,051 14,351 | | | | | | | | |

* MJ 3 x 0,50 até MJ 5 x 0,80 Ø-núcleo rosca interna 6H

DIÂMETROS DE BROCAS PARA ROSCA

DIÂMETRO DE NÚCLEO PARA ROSCAS CORTADAS

| Rosca UNF ASME B1.1 | | | | Rosca BSW-(Whitworth) BS84 | | | | Rosca gás (Whitworth) (conforme DIN-ISO 228-1) | | | | Rosca blindada para aço conforme DIN 40430 | | | |
|---------------------|----------------|-------------------------------|--|----------------------------|----------------|-------------------------------|---|--|----------------|-------------------------------|---|--|----------------|-------------------------------|---|
| Ø nom. | Fio por poleg. | Diâmetro do furo Ø DIN 336 mm | Ø do núcleo rosca interna 2B min. mm max. mm | Ø nom. | Fio por poleg. | Diâmetro do furo Ø DIN 336 mm | Ø do núcleo rosca interna min. mm max. mm | Ø nom. | Fio por poleg. | Diâmetro do furo Ø DIN 336 mm | Ø do núcleo rosca interna min. mm max. mm | Ø nom. | Fio por poleg. | Diâmetro do furo Ø DIN 336 mm | Ø do núcleo rosca interna min. mm max. mm |
| Nr. 1 - 72 | 1,55 | 1,473 | 1,610 | W 1/16 | 60 | 1,20 | 1,045 1,230 | G 1/16 | 28 | 6,80 | 6,561 6,843 | Pg 7 | 20 | 11,40 | 11,280 11,430 |
| Nr. 2 - 64 | 1,85 | 1,755 | 1,910 | W 3/32 | 48 | 1,80 | 1,704 1,912 | G 1/8 | 28 | 8,80 | 8,566 8,848 | Pg 9 | 18 | 14,00 | 13,860 14,010 |
| Nr. 3 - 56 | 2,15 | 2,024 | 2,197 | W 1/8 | 40 | 2,50 | 2,362 2,591 | G 1/4 | 19 | 11,80 | 11,445 11,890 | Pg 11 | 18 | 17,30 | 17,260 17,410 |
| Nr. 4 - 48 | 2,40 | 2,271 | 2,459 | W 5/32 | 32 | 3,20 | 2,952 3,214 | G 3/8 | 19 | 15,25 | 14,950 15,395 | Pg 13,5 | 18 | 19,00 | 19,060 19,210 |
| Nr. 5 - 44 | 2,70 | 2,550 | 2,741 | W 3/16 | 24 | 3,60 | 3,407 3,745 | G 1/2 | 14 | 19,00 | 18,631 19,172 | Pg 16 | 18 | 21,30 | 21,160 21,310 |
| Nr. 6 - 40 | 2,95 | 2,819 | 3,023 | W 7/32 | 24 | 4,50 | 4,201 4,539 | G 5/8 | 14 | 21,00 | 20,587 21,128 | Pg 21 | 16 | 26,90 | 26,780 27,030 |
| Nr. 8 - 36 | 3,50 | 3,404 | 3,607 | W 1/4 | 20 | 5,10 | 4,724 5,156 | G 3/4 | 14 | 24,50 | 24,117 24,658 | Pg 29 | 16 | 35,50 | 35,480 35,730 |
| Nr. 10 - 32 | 4,10 | 3,962 | 4,166 | W 5/16 | 18 | 6,50 | 6,130 6,590 | G 7/8 | 14 | 28,25 | 27,877 28,418 | Pg 36 | 16 | 45,50 | 45,480 45,730 |
| Nr. 12 - 28 | 4,60 | 4,496 | 4,724 | W 3/8 | 16 | 7,90 | 7,492 7,987 | G 1 | 11 | 30,75 | 30,291 30,931 | Pg 42 | 16 | 52,50 | 52,480 52,730 |
| 1/4 - 28 | 5,50 | 5,359 | 5,588 | W 7/16 | 14 | 9,20 | 8,789 9,330 | G 1 1/8 | 11 | 35,50 | 34,939 35,579 | Pg 48 | 16 | 57,80 | 57,780 58,030 |
| 5/16 - 24 | 6,90 | 6,782 | 7,036 | W 1/2 | 12 | 10,50 | 9,989 10,591 | G 1 1/4 | 11 | 39,50 | 38,952 39,592 | | | | |
| 3/8 - 24 | 8,50 | 8,382 | 8,636 | W 9/16 | 12 | 12,00 | 11,577 12,179 | G 1 1/2 | 11 | 45,25 | 44,845 45,485 | | | | |
| 7/16 - 20 | 9,90 | 9,728 | 10,033 | W 5/8 | 11 | 13,50 | 12,918 13,558 | G 1 3/4 | 11 | 51,00 | 50,788 51,428 | | | | |
| 1/2 - 20 | 11,50 | 11,328 | 11,608 | W 3/4 | 10 | 16,25 | 15,797 16,483 | G 2 | 11 | 57,00 | 56,656 57,296 | | | | |
| 9/16 - 18 | 12,90 | 12,751 | 13,081 | W 7/8 | 9 | 19,25 | 18,611 19,353 | | | | | | | | |
| 5/8 - 18 | 14,50 | 14,351 | 14,681 | W 1 | 8 | 22,00 | 21,334 22,147 | | | | | | | | |
| 3/4 - 16 | 17,50 | 17,323 | 17,678 | W 1 1/8 | 7 | 24,50 | 23,928 24,832 | | | | | | | | |
| 7/8 - 14 | 20,40 | 20,269 | 20,650 | W 1 1/4 | 7 | 27,75 | 27,103 28,007 | | | | | | | | |
| 1 - 12 | 23,25 | 23,114 | 23,571 | W 1 3/8 | 6 | 30,50 | 29,504 30,528 | | | | | | | | |
| 1 1/8 - 12 | 26,50 | 26,289 | 26,746 | W 1 1/2 | 6 | 33,50 | 32,679 33,703 | | | | | | | | |
| 1 1/4 - 12 | 29,50 | 29,464 | 29,921 | W 1 5/8 | 5 | 35,50 | 34,769 35,963 | | | | | | | | |
| 1 3/8 - 12 | 32,75 | 32,639 | 33,096 | W 1 3/4 | 5 | 39,00 | 37,944 39,138 | | | | | | | | |
| 1 1/2 - 12 | 36,00 | 35,814 | 36,271 | W 2 | 4,5 | 44,50 | 43,571 44,877 | | | | | | | | |

NPT ANSI B 2.1

Rosca cônica americana para tubos cone 1:16

| Execução A (evitar se possível) | Execução B | Ø nom. | Fio por polegadas | Ø do furo do núcleo cilindr. (A) d ₁ | Ø do furo do núcleo cônico (B) D ₁ | Profundidade da rosca ET mm | Profundidade do furo BT (min) mm |
|---------------------------------|------------|--------|-------------------|---|---|-----------------------------|----------------------------------|
| | | 1/16 | - 27 | 6,15 | 6,39 | 9,29 | 10,7 |
| | | 1/8 | - 27 | 8,40 | 8,74 | 9,32 | 10,8 |
| | | 1/4 | - 18 | 11,10 | 11,36 | 13,52 | 15,6 |
| | | 3/8 | - 18 | 14,30 | 14,80 | 13,83 | 16,0 |
| | | 1/2 | - 14 | 17,90 | 18,32 | 18,07 | 20,8 |
| | | 3/4 | - 14 | 23,30 | 23,67 | 18,55 | 21,3 |
| | | 1 | - 11,5 | 29,00 | 29,69 | 22,29 | 25,6 |
| | | 1 1/4 | - 11,5 | 37,70 | 38,45 | 22,80 | 26,1 |
| | | 1 1/2 | - 11,5 | 43,70 | 44,52 | 22,80 | 26,1 |
| | | 2 | - 11,5 | 55,60 | 56,56 | 23,20 | 26,5 |
| | | 2 1/2 | - 8 | 66,30 | 67,62 | 31,75 | 36,3 |
| | | 3 | - 8 | 82,30 | 83,52 | 33,74 | 38,5 |

| Rosca EG métr./métr. fina (EG M14 x 1,25) para rosca postiças DIN 8140 | | | | |
|--|--------------|-------------------------------|---|--------|
| Ø nom. | x Passo P mm | Diâmetro do furo Ø DIN 336 mm | Ø do núcleo rosca interna min. mm max. mm | |
| EG M 4 | 0,70 | 4,20 | 4,152 | 4,292 |
| EG M 5 | 0,80 | 5,25 | 5,174 | 5,334 |
| EG M 6 | 1,00 | 6,30 | 6,217 | 6,407 |
| EG M 8 | 1,25 | 8,40 | 8,271 | 8,483 |
| EG M10 | 1,50 | 10,50 | 10,324 | 10,560 |
| EG M12 | 1,75 | 12,50 | 12,379 | 12,644 |
| EG M14 x 1,25 | 1,25 | 14,40 | 14,271 | 14,483 |
| EG M16 | 2,00 | 16,50 | 16,433 | 16,733 |

| Rosca EG UNC (UNC-STI) para rosca postiças ASME B18.29.1 | | | | |
|--|----------------|-------------------------------|---|--------|
| Ø nom. | Fio por poleg. | Diâmetro do furo Ø DIN 336 mm | Ø do núcleo rosca interna min. mm max. mm | |
| EG Nr. 6 - 32 | | 3,80 | 3,678 | 3,879 |
| EG Nr. 8 - 32 | | 4,40 | 4,338 | 4,524 |
| EG Nr. 10 - 24 | | 5,20 | 5,055 | 5,283 |
| EG Nr. 12 - 24 | | 5,80 | 5,715 | 5,944 |
| EG 1/4 - 20 | | 6,70 | 6,624 | 6,868 |
| EG 5/16 - 18 | | 8,40 | 8,242 | 8,489 |
| EG 3/8 - 16 | | 10,00 | 9,868 | 10,127 |
| EG 7/16 - 14 | | 11,60 | 11,506 | 11,783 |
| EG 1/2 - 13 | | 13,30 | 13,122 | 13,393 |
| EG 9/16 - 12 | | 14,90 | 14,747 | 15,032 |
| EG 5/8 - 11 | | 16,50 | 16,375 | 16,673 |

| Rosca EG UNF (UNF-STI) para rosca postiças ASME B18.29.1 | | | | |
|--|----------------|-------------------------------|---|--------|
| Ø nom. | Fio por poleg. | Diâmetro do furo Ø DIN 336 mm | Ø do núcleo rosca interna min. mm max. mm | |
| EG Nr. 6 - 40 | | 3,70 | 3,644 | 3,818 |
| EG Nr. 8 - 36 | | 4,40 | 4,321 | 4,498 |
| EG Nr. 10 - 32 | | 5,10 | 4,999 | 5,184 |
| EG Nr. 12 - 28 | | 5,70 | 5,682 | 5,809 |
| EG 1/4 - 28 | | 6,60 | 6,546 | 6,721 |
| EG 5/16 - 24 | | 8,25 | 8,166 | 8,352 |
| EG 3/8 - 24 | | 9,80 | 9,754 | 9,931 |
| EG 7/16 - 20 | | 11,50 | 11,389 | 11,585 |
| EG 1/2 - 20 | | 13,10 | 12,974 | 13,172 |
| EG 9/16 - 18 | | 14,70 | 14,592 | 14,798 |
| EG 5/8 - 18 | | 16,25 | 16,180 | 16,386 |



DIÂMETROS DE BROCAS PARA ROSCA

DIÂMETROS DE BROCAS RECOMENDADOS PARA A LAMINAÇÃO DE ROSCAS

| Rosca métrica ISO DIN 13 | | | | | | Rosca métrica fina ISO DIN 13 | | | | | | | | | | | | |
|--------------------------|----------|--------------|---------|-------------------------------|---------|-------------------------------|--------------|--------------|---------|-------------------------------|---------|----------------|--------------|--------------|---------|-------------------------------|---------|--------|
| Ø nom. | Passo mm | Ø do furo | | Ø do núcleo Rosca interna 7H* | | Ø x Passo nom. | Ø do furo mm | Ø do furo | | Ø do núcleo Rosca interna 7H* | | Ø x Passo nom. | Ø do furo mm | Ø do furo | | Ø do núcleo Rosca interna 7H* | | |
| | | min. mm | max. mm | min. mm | max. mm | | | min. mm | max. mm | min. mm | max. mm | | | min. mm | max. mm | min. mm | max. mm | |
| M 2 | 0,40 | 1,85 | 1,83 | 1,87 | 1,567 | 1,679 | M 2,5 x 0,35 | 2,35 | 2,35 | 2,58 | 2,121 | 2,221 | M 17 x 1,50 | 16,30 | 16,26 | 16,38 | 15,376 | 15,751 |
| M 2,2 | 0,45 | 2,00 | 1,98 | 2,02 | 1,713 | 1,838 | M 3 x 0,35 | 2,85 | 2,85 | 2,88 | 2,621 | 2,721 | M 18 x 1,00 | 17,55 | 17,52 | 17,62 | 16,917 | 17,217 |
| M 2,5 | 0,45 | 2,30 | 2,28 | 2,32 | 2,013 | 2,138 | M 4 x 0,35 | 3,85 | 3,85 | 3,88 | 3,621 | 3,721 | M 18 x 1,50 | 17,30 | 17,26 | 17,38 | 16,376 | 16,751 |
| M 3 | 0,50 | 2,80 | 2,78 | 2,84 | 2,459 | 2,639 | M 4 x 0,50 | 3,80 | 3,77 | 3,83 | 3,459 | 3,639 | M 18 x 2,00 | 17,10 | 17,05 | 17,20 | 15,835 | 16,310 |
| M 3,5 | 0,60 | 3,25 | 3,22 | 3,28 | 2,850 | 3,050 | M 5 x 0,50 | 4,80 | 4,77 | 4,83 | 4,459 | 4,639 | M 20 x 1,00 | 19,55 | 19,52 | 19,62 | 18,917 | 19,217 |
| M 4 | 0,70 | 3,70 | 3,67 | 3,76 | 3,242 | 3,466 | M 5,5 x 0,50 | 5,30 | 5,27 | 5,33 | 4,959 | 5,139 | M 20 x 1,50 | 19,30 | 19,26 | 19,38 | 18,376 | 19,751 |
| M 5 | 0,80 | 4,65 | 4,62 | 4,68 | 4,134 | 4,384 | M 6 x 0,75 | 5,65 | 5,62 | 5,70 | 5,188 | 5,424 | M 24 x 1,00 | 23,55 | 23,52 | 23,62 | 22,917 | 23,217 |
| M 6 | 1,00 | 5,55 | 5,52 | 5,60 | 4,917 | 5,217 | M 7 x 0,75 | 6,65 | 6,62 | 6,70 | 6,188 | 6,424 | M 24 x 1,50 | 23,30 | 23,26 | 23,38 | 22,376 | 22,751 |
| M 7 | 1,00 | 6,55 | 6,52 | 6,60 | 5,917 | 6,217 | M 8 x 0,75 | 7,65 | 7,62 | 7,70 | 7,188 | 7,424 | M 24 x 2,00 | 23,10 | 23,05 | 23,20 | 21,835 | 22,310 |
| M 8 | 1,25 | 7,40 | 7,39 | 7,47 | 6,647 | 6,982 | M 8 x 1,00 | 7,55 | 7,52 | 7,62 | 6,917 | 7,217 | M 27 x 1,50 | 26,30 | 26,26 | 26,38 | 25,376 | 25,751 |
| M 9 | 1,25 | 8,40 | 8,39 | 8,47 | 7,647 | 7,982 | M 9 x 0,75 | 8,65 | 8,62 | 8,70 | 8,188 | 8,424 | M 30 x 1,50 | 29,30 | 29,26 | 29,38 | 28,376 | 28,751 |
| M 10 | 1,50 | 9,30 | 9,29 | 9,37 | 8,376 | 8,751 | M 9 x 1,00 | 8,55 | 8,52 | 8,62 | 7,917 | 8,217 | M 33 x 1,50 | 32,30 | 32,26 | 32,38 | 31,376 | 31,751 |
| M 11 | 1,50 | 10,30 | 10,29 | 10,37 | 9,376 | 9,751 | M 10 x 0,75 | 9,65 | 9,62 | 9,70 | 9,188 | 9,424 | M 36 x 1,50 | 35,30 | 35,26 | 35,38 | 34,376 | 34,751 |
| M 12 | 1,75 | 11,20 | 11,18 | 11,28 | 10,106 | 10,531 | M 10 x 1,00 | 9,55 | 9,52 | 9,62 | 8,917 | 9,217 | M 39 x 1,50 | 38,30 | 38,26 | 38,38 | 37,376 | 37,751 |
| M 14 | 2,00 | 13,10 | 13,07 | 13,16 | 11,835 | 12,310 | M 10 x 1,25 | 9,40 | 9,36 | 9,47 | 8,647 | 8,982 | M 42 x 1,50 | 41,30 | 41,26 | 41,38 | 42,376 | 42,751 |
| M 16 | 2,00 | 15,10 | 15,07 | 15,16 | 13,835 | 14,310 | M 11 x 0,75 | 10,65 | 10,62 | 10,70 | 10,188 | 10,424 | | | | | | |
| M 18 | 2,50 | 16,90 | 16,85 | 17,00 | 15,294 | 15,854 | M 11 x 1,00 | 10,55 | 10,52 | 10,62 | 9,917 | 10,217 | | | | | | |
| M 20 | 2,50 | 18,90 | 18,85 | 19,00 | 17,294 | 17,854 | M 12 x 1,00 | 11,55 | 11,52 | 11,62 | 10,917 | 11,217 | | | | | | |
| M 22 | 2,50 | 20,90 | 20,85 | 21,00 | 19,294 | 19,854 | M 12 x 1,25 | 11,40 | 11,36 | 11,47 | 10,647 | 10,982 | | | | | | |
| M 24 | 3,00 | 22,70 | 22,62 | 22,80 | 20,752 | 21,382 | M 12 x 1,50 | 11,30 | 11,26 | 11,38 | 10,376 | 10,751 | | | | | | |
| M 27 | 3,00 | 25,70 | 25,62 | 25,80 | 23,752 | 24,382 | M 14 x 1,00 | 13,55 | 13,52 | 13,62 | 12,917 | 13,217 | | | | | | |
| M 30 | 3,50 | 28,50 | 28,40 | 28,60 | 26,211 | 26,921 | M 14 x 1,25 | 13,40 | 13,36 | 13,47 | 12,647 | 12,982 | | | | | | |
| M 33 | 3,50 | 31,50 | 31,40 | 31,60 | 29,211 | 29,921 | M 14 x 1,50 | 13,30 | 13,26 | 13,38 | 12,376 | 12,751 | | | | | | |
| M 36 | 4,00 | 34,30 | 34,17 | 34,40 | 31,670 | 32,420 | M 15 x 1,00 | 14,55 | 14,52 | 14,62 | 13,917 | 14,217 | | | | | | |
| M 39 | 4,00 | 37,30 | 37,17 | 37,40 | 34,670 | 35,420 | M 15 x 1,50 | 14,30 | 14,26 | 14,38 | 13,376 | 13,751 | | | | | | |
| M 42 | 4,50 | 40,10 | 39,95 | 40,20 | 37,129 | 37,979 | M 16 x 1,00 | 15,55 | 15,52 | 15,62 | 14,917 | 15,217 | | | | | | |
| | | | | | | | M 16 x 1,50 | 15,30 | 15,26 | 15,38 | 14,376 | 14,751 | | | | | | |
| | | | | | | | M 17 x 1,00 | 16,55 | 16,52 | 16,62 | 15,917 | 16,217 | | | | | | |

* M 2 até M 2,5 Ø-núcleo rosca interna 6H

* M 2,5 x 0,35 até M 4 x 0,35 Ø-núcleo rosca interna 6H

Campo de tolerâncias do diâmetro de núcleo para roscas laminadas (conforme DIN 13, parte 50)

Por motivos de resistência não é necessário manter as tolerâncias 6 H dos furos de núcleo; a tolerância 7 H atende as necessidades, a sobreposição dos flancos da rosca externa e interna não pode ser inferior a 0,32 x P. Além disto as roscas laminadas, devido a não terem seus filamentos cortados e por serem recalçadas a frio, tem em regra uma maior resistência do que as roscas cortadas.

| Rosca UNC ASME B1.1 | | | | | | Rosca UNF ASME B1.1 | | | | | | Rosca gás (Whitworth) DIN EN ISO 228-1 | | | | | | |
|---------------------|----------------|-----------|---------|------------------------------|---------|---------------------|----------------|-----------|---------|------------------------------|---------|--|----------------|--------------|---------|---------------------------|---------|--------|
| Ø nom. | Fio por poleg. | Ø do furo | | Ø do núcleo Rosca interna 2B | | Ø nom. | Fio por poleg. | Ø do furo | | Ø do núcleo Rosca interna 2B | | Ø nom. | Fio por poleg. | Ø do furo | | Ø do núcleo Rosca interna | | |
| | | min. mm | max. mm | min. mm | max. mm | | | min. mm | max. mm | min. mm | max. mm | | | min. mm | max. mm | min. mm | max. mm | |
| Nr. 1 - 64 | 1,68 | 1,67 | 1,70 | 1,425 | 1,580 | Nr. 1 - 72 | 1,70 | 1,69 | 1,72 | 1,473 | 1,610 | G 1/16 | 28 | 7,30 | 7,28 | 7,35 | 6,561 | 6,843 |
| Nr. 2 - 56 | 1,98 | 1,97 | 2,01 | 1,694 | 1,872 | Nr. 2 - 64 | 2,00 | 1,99 | 2,03 | 1,755 | 1,910 | G 1/8 | 28 | 9,30 | 9,28 | 9,35 | 8,566 | 8,848 |
| Nr. 3 - 48 | 2,28 | 2,27 | 2,32 | 1,941 | 2,146 | Nr. 3 - 56 | 2,30 | 2,29 | 2,34 | 2,024 | 2,197 | G 1/4 | 19 | 12,50 | 12,48 | 12,55 | 11,445 | 11,890 |
| Nr. 4 - 40 | 2,55 | 2,54 | 2,59 | 2,157 | 2,385 | Nr. 4 - 48 | 2,60 | 2,59 | 2,63 | 2,271 | 2,459 | G 3/8 | 19 | 16,00 | 15,98 | 16,05 | 14,950 | 15,395 |
| Nr. 5 - 40 | 2,90 | 2,89 | 2,94 | 2,487 | 2,698 | Nr. 5 - 44 | 2,90 | 2,89 | 2,93 | 2,550 | 2,741 | G 1/2 | 14 | 20,00 | 19,98 | 20,12 | 18,631 | 19,172 |
| Nr. 6 - 32 | 3,15 | 3,14 | 3,19 | 2,642 | 2,896 | Nr. 6 - 40 | 3,20 | 3,19 | 3,24 | 2,819 | 3,023 | G 5/8 | 14 | 22,00 | 21,98 | 22,12 | 20,587 | 21,128 |
| Nr. 8 - 32 | 3,80 | 3,78 | 3,82 | 3,302 | 3,531 | Nr. 8 - 36 | 3,85 | 3,83 | 3,88 | 3,404 | 3,607 | G 3/4 | 14 | 25,50 | 25,48 | 25,62 | 24,117 | 24,658 |
| Nr. 10 - 24 | 4,35 | 4,33 | 4,39 | 3,683 | 3,937 | Nr. 10 - 32 | 4,45 | 4,43 | 4,49 | 3,962 | 4,166 | G 7/8 | 14 | 29,25 | 29,23 | 29,37 | 27,877 | 28,418 |
| Nr. 12 - 24 | 5,00 | 4,97 | 5,03 | 4,343 | 4,597 | Nr. 12 - 28 | 5,10 | 5,07 | 5,13 | 4,496 | 4,724 | G 1 | 11 | 32,00 | 31,98 | 32,15 | 30,291 | 30,931 |
| 1/4 - 20 | 5,75 | 5,72 | 5,80 | 4,978 | 5,258 | 1/4 - 28 | 5,95 | 5,92 | 5,99 | 5,359 | 5,588 | G 1 1/4 | 11 | 40,75 | 40,70 | 40,85 | 38,952 | 39,592 |
| 5/16 - 18 | 7,30 | 7,26 | 7,37 | 6,401 | 6,731 | 5/16 - 24 | 7,45 | 7,42 | 7,50 | 6,782 | 7,036 | | | | | | | |
| 3/8 - 16 | 8,80 | 8,77 | 8,88 | 7,798 | 8,153 | 3/8 - 24 | 9,05 | 9,02 | 9,10 | 8,838 | 8,636 | | | | | | | |
| 7/16 - 14 | 10,30 | 10,27 | 10,37 | 9,144 | 9,550 | 7/16 - 20 | 10,55 | 10,48 | 10,58 | 9,728 | 10,033 | | | | | | | |
| 1/2 - 13 | 11,80 | 11,77 | 11,88 | 10,592 | 11,024 | 1/2 - 20 | 12,10 | 12,08 | 12,18 | 11,328 | 11,608 | | | | | | | |
| 9/16 - 12 | 13,30 | 13,28 | 13,39 | 11,989 | 12,446 | 9/16 - 18 | 13,65 | 13,61 | 13,72 | 12,751 | 13,081 | | | | | | | |
| 5/8 - 11 | 14,80 | 14,78 | 14,90 | 13,386 | 13,868 | 5/8 - 18 | 15,25 | 15,21 | 15,32 | 14,351 | 14,681 | | | | | | | |
| 3/4 - 10 | 17,90 | 17,85 | 17,97 | 16,307 | 16,840 | 3/4 - 16 | 18,35 | 18,30 | 18,41 | 17,323 | 17,678 | | | | | | | |
| 7/8 - 9 | 21,00 | 20,95 | 21,10 | 19,177 | 19,761 | 7/8 - 14 | 21,40 | 21,35 | 21,49 | 20,269 | 20,650 | | | | | | | |
| 1 - 8 | 24,00 | 23,95 | 24,12 | 21,971 | 22,606 | 1 - 12 | 24,45 | 24,40 | 24,54 | 23,114 | 23,571 | | | | | | | |